REMARKS

Claims 1-24 are pending in the subject application. Claims 1-11 and 18-20 have been allowed, and claim 24 has been deemed allowable if rewritten in independent form. Claims 12-17 and 21-23 stand rejected.

Rejection of Claims 12-17 and 21-23 Under 35 U.S.C. 102

Claims 12-17 and 21-23 stand rejected under 35 U.S.C. 102 as being anticipated by PCT publication WO 9742462 to Martinez-Tovar. Among these claims, claims 12 and 21 are written in independent form.

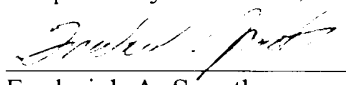
Claim 12 is drawn to a semiconductor bridge igniter device having a particular kind of metal layer deposited over a bridge of semiconductor material. The claim has been amended in a non-limiting way to emphasize that the metal layer differs from metal layers used in the prior art on semiconductor bridges because it contains titanium that has been preconditioned to stabilize it against temperature-induced variations in bridge electrical resistance. The discovery of such temperature-induced variations in bridge resistance of prior art titanium bridges such as is shown in Martinez-Tovar, and the discovery of preconditioning of the titanium as a preventive measure therefor, are discussed in the application at page 4, line 29 through page 5, line 17. Nowhere does Martinez-Tovar state that the titanium in the semiconductor bridge disclosed therein has been preconditioned so that it will be able to resist temperature-induced variations in bridge electrical resistance, and nowhere does Martinez-Tovar even suggest that titanium could be preconditioned to this effect. Therefore, Martinez-Tovar fails to anticipate (or even render obvious) claim 12 or any of the claims dependent therefrom.

Independent claim 21 defines a method of operation of a semiconductor bridge igniter, the method including applying a voltage sufficient to melt the metal and vaporize the semiconductor material thereunder in order to initiate a charge of energetic material. The claim has been amended to emphasize that melting the solid metal removes a solid barrier between the semiconductor material and the energetic material. (Support for the amendment can be found in the specification at page 6, lines 17-30.) No such method of operation is taught or suggested by Martinez-Tovar, which discloses a device that includes the semiconductor bridge device having a metal layer thereon that includes tungsten. As described in the subject application at page 3, lines

18-31, the tungsten is not melted by the electricity that causes the vaporization of the silicon thereunder, because of the difference in the melting temperature of tungsten (about 3400°C) and the vaporization temperature of the semiconductor bridge material (about 1400°C). The semiconductor bridge material vaporizes before the tungsten can melt, and the solid metallic tungsten inhibits the transfer of energy from the plasma created by the semiconductor bridge to the energetic material it is supposed to ignite. This means that the operation of the Martinez-Tovar device does not comply with claim 21, i.e., the voltage applied to the bridge does not lead to the removal of solid metal from between the semiconductor material and the energetic material. Furthermore, there is no suggestion in the reference towards operating the igniter device in this way. Accordingly, Martinez-Tovar fails to anticipate (or even render obvious) claim 21 or claims 22 and 23 dependent therefrom.

Each of the stated grounds of rejection have been traversed. Re-examination and reconsideration of the rejected claims is respectfully requested.

Respectfully submitted,



Frederick A. Spaeth
Registration No. 33,793
Attorney for Applicant

Libert & Associates
3 Mill Pond Lane
P.O. Box 538
Simsbury, CT 06070-0538

Telephone: (860) 651-9321
Facsimile: (860) 651-5735

P-1500s/P-1583/response6(mf)